**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Structure and role of relational databases, p 97**

1. What is a flat file database?

A flat file database stored data in tables consisting of rows and columns. Each column has a field with a specific piece of information. Each row holds a record.

1. Define each of the following terms:
   1. Primary key

Primary key is a field attached to each record in a data base. It must be a unique value for every record. Its purpose is to identify data related to each record, which may be stored across multiple tables.

* 1. Field

A field is a specific set of information that is recorded in the column of a table.

* 1. Record

A record is a set of information about one entity.

* 1. Form

A form allows an input screen to be formatted and linked to an underlying table or query. It allows the data to be represented much more efficiently, and can use appropriate headings and fields to quickly summarise information.

* 1. Query

A query is a means to filter data. The results are usually turned into usable information by putting into a report. For example, the search engine on a web browser allows the user to find the information they are looking for by searching for key words, etc.

* 1. Report

A report formats the query data and allows you to add summary statistics, such as tools, as well as headings, to make the information easier to read and understand.

* 1. Macros

Macros are a tool designed to carry out a predetermined task (e.g. print a report).

**Data types and formats**

1. List the following **data types** and characteristics of each with examples.
   1. Text, (string) String data types include a series of symbols or values, such as a character string (a sequence of characters) or a binary string ( a sequence of binary values

Any piece of text that must be entered into a field, for example, personal details in a form including names, addresses, post codes, telephone numbers and product names. Up to 255 characters can be used, and it is searchable.

* 1. Numeric

Only used when you are using a number that needs calculations performed on it. For example, formulae in an equation – the total cost price after calculating revenue and expense. If a series of numbers (such as a telephone number) do not need calculations performed on it, it is considered as normal text.

* 1. Currency

Numbers shown in dollar amounts, with the $ symbol and .00 as a default. For example, the cost of shopping at the supermarket.

* 1. Date/time

A variation of numbers used to show a date or time. For example, a date of birth - 01/04/1997.

* 1. Boolean

Represents one of two states: true/false, yes/no or on/off. For example, an exercise survey asking whether you exercise regularly or not, etc.

* 1. Object

Include images, audio, video or similar, which may be used in media or other documents. For example, music or movie files.

* 1. Memo

Used for long passages of text, it has an unlimited amount of characters, but is not searchable. For example, any long section of text.

1. **Data Formats:**

Elaborate on the following common data formats:

* 1. Text

A fixed amount of characters may be allowed, for example 25 characters for the name field, while a postcode would only allow four characters.

* 1. fixed decimal places

Certain numeric values, such as dollars and cents or when rounding occurs, need to be formatted with a fixed number of decimal places. These decimal places will occur for even whole numbers – e.g. 5.00

* 1. Date

Can be made to display in different ways – e.g. 23/03/11 or 23-March-11 (preferred)

* 1. Date/time

A variation of date where you can show time to minutes and seconds if necessary. In a 12-hour clock, hours start at 12:00 and go to 11:59, and a.m. and p.m. are used to indicate the part of the day. In 24 hour time, hours start at 00:00 and go to 23:59 instead of 11:59 p.m.

* 1. Dollar, currency

$ Symbol is displayed, it defaults to .00 after the value

* 1. True/false, Boolean logic

Can be displayed as words (such as yes/no, true/false) or as check or tick boxes to make data entry easier.